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## (54) THIN FILM TYPE THERMAL HEAD

## (57)Abstract:

PURPOSE: To realize the high speed operation of a thermal head, and improve the high temperature stability, by making the temperature coefficient of resistance of Ta-SiO<sub>2</sub> as a thin film heater resistor approximate to zero.

CONSTITUTION: The temperature coefficient of resistance TCR of a thin film heating resistor 2 composed of tantalum-silicon oxide (Ta-SiO<sub>2</sub>) is made 0 to -500ppm in the resistivity range of 1-100mΩ.cm. As a result, the TCR can be almost equal to zero, by

performing Ta-SiO<sub>2</sub> sputtering, wherein a target whose SiO<sub>2</sub> mol ratio in the target composition ratio is in a range of 30-70%, and argon gas pressure is kept about 10-2Torr. Thereby, the high speed operation of a thermal

head is realized, and the improvement of high temperature stability and durability can be easily attained.



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